

REMARKS

Claims 4-9 and 13-15 are pending in the application. Claims 4-6 have been amended, and claims 13-15 have been newly added. Reconsideration of the rejection and allowance of the pending application in view of the following remarks are respectfully requested.

As an initial matter, Applicants wish to thank the Examiner for the interview of July 12, 2006. During the interview, Applicants' U.S. representative discussed with the Examiner differences between Hasegawa et al. (U.S. Patent No. 5,144,117) (which the Examiner relied on in rejecting Applicants' claims 4-9) and the claimed inventions. However, no specific agreement was reached regarding the claims.

As another matter, Applicants note that the Examiner has still not indicated whether the drawings filed on March 23, 2004 are acceptable. Applicants again respectfully request the Examiner to indicate his acceptance of the drawings in the next Office communication.

Applicants also note that the Examiner has still not acknowledged Applicants' claim for foreign priority, or receipt of the certified copy of the priority document, Japanese Application No. 2003-092203, which was filed on March 28, 2003, and upon which Applicants' claim for foreign priority is based. Applicants again request that the Examiner acknowledge, in the next Office communication, Applicants' claim for foreign priority and receipt of the certified copy of the priority document.

As another matter, Applicants note that box 7 of the Office Action Summary (Form PTOL-326) indicates that claim 2 is objected to. Applicants wish to point out that claim 2 was previously cancelled by another amendment, and thus believe this to be an error.

In the Office Action, the Examiner rejected claims 4-9 under 35 U.S.C. § 102(b) as being anticipated by Hasegawa et al. Applicants respectfully traverse the rejection for at least the following reasons.

Applicants' independent claim 4 recites an illumination apparatus which includes, inter alia, a power source device, configured to provide a rated current to a plurality of different illumination heads having different rated currents, and an illumination head which includes a current detection resistor.

Applicants' independent claim 5 recites an illumination head which includes, inter alia, a current detection resistor. The illumination head is connectable to a power source device configured to provide a rated current to a plurality of different illumination heads having different rated currents.

Applicants' independent claim 6 recites a power source device that supplies power to an illumination head. The power source device is configured to provide a rated current to a plurality of different illumination heads having different rated currents.

Hasegawa discloses an illumination type optical recorded information reading device which includes a light source 18 and a light source driving circuit 30. See col. 7, lines 18-31, and Figures 1 and 2 of Hasegawa. The light source 18 is constructed of an LED array consisting of a plurality of LEDs 1-10. See col. 8, lines 23-26 and Figure 1 of Hasegawa. The light source driving circuit 30 includes resistors 36-38. See Figure 1 of Hasegawa. A constant voltage V_0 supplied from a voltage regulator circuit 27 is divided by resistors 37 and 38 to obtain a partial voltage as a reference voltage V_s . See col. 8, lines 46-50 and Figure 1 of Hasegawa.

Hasegawa discloses, at col. 9, lines 11-16, that an assumption is made that a current of 20 mA flows through each LED 1-10, that the resistance of resistor 36 is 2 Ω ,

and thus a total current I flowing through resistor 36 is $20\text{ mA} \times 5 = 100\text{ mA}$, and a terminal voltage V_R of resistor 36 is $100\text{ mA} \times 2\ \Omega = 0.2\text{ V}$. To maintain this condition, the reference voltage V_s is set to 0.2 V . See col. 9, lines 16-19 of Hasegawa.

Applicants respectfully submit that Hasegawa's information reading device does not include a power source device which is configured to provide a rated current to a plurality of different illumination heads having different rated currents. Rather, Applicants submit that Hasegawa's information reading device is only configured to provide a current of 100 mA to a light source 18 having five rows of LEDs. In this regard, Hasegawa's light source driving circuit 30 is designed such that the values of Hasegawa's resistors 37 and 38 are chosen to generate a specific reference voltage V_s of 0.2 V , and that five transistors 31-35 are provided to connect to a light source 18 having five rows of LEDs. Thus, Applicants submit that the light source driving circuit 30 cannot provide different rated currents to different illumination heads.

Applicants submit that Hasegawa's illumination type optical recorded information reading device is a bar code reader. See, e.g., col. 7, lines 50-56 of Hasegawa. Applicants respectfully submit that a bar code reader such as Hasegawa's is not configured to work with a plurality of different exchangeable LED arrays having different current ratings. Rather, Applicants submit that Hasegawa's bar code reader is only capable of providing a 100 mA current to an attached LED array.

Applicants further submit that Hasegawa's light source 18 does not include a current detection resistor. Rather, Applicants submit that the light source 18 only includes LEDs 1-10. See Figure 1 of Hasegawa.

At page 2 of the Office Action, the Examiner asserts that Hasegawa's resistor 36 corresponds to Applicants' claimed current detection resistor. Applicants respectfully disagree.

Applicants respectfully submit that Hasegawa's resistor 36 is not comprised in an illumination head, as recited in Applicants' claims 4-6. Rather, Applicants submit that the resistor 36 is comprised in light source driving circuit 30, which is not an illumination head. Instead, the light source driving circuit 30 connects to a separate light source 18.

Applicants submit that Hasegawa's light source driving circuit 30 maintains a constant current supplied to the LEDs 1-10. Applicants submit that if an array of LEDs different from the array of LEDs 1-10 is connected to the light source driving circuit 30, the light source driving circuit 30 would be unable to supply the appropriate current to the LED array.

In contrast, the current detection resistor provided in Applicants' claimed illumination head has a resistance value which generates a voltage drop equal to a predetermined reference potential when a rated current is supplied to each light emitting device of the illumination head, allowing a power source device to provide a rated current to the illumination head.

Thus, Applicants respectfully submit that Hasegawa fails to disclose or suggest an illumination apparatus which includes a power source device, configured to provide a rated current to a plurality of different illumination heads having different rated currents, and an illumination head which includes a current detection resistor, as recited in Applicants' independent claim 4.

Applicants also submit that Hasegawa fails to disclose or suggest an illumination head which includes a current detection resistor and is connectable to a power source

device configured to provide a rated current to a plurality of different illumination heads having different rated currents, as recited in Applicants' independent claim 5.

Applicants further submit that Hasegawa fails to disclose or suggest a power source device which is configured to provide a rated current to a plurality of different illumination heads having different rated currents, as recited in Applicants' independent claim 6.

For at least these reasons, Applicants respectfully submit that independent claims 4-6 are in condition for allowance, and respectfully request the Examiner to withdraw the 35 U.S.C. § 102(b) rejection and allow claims 4-6.

Dependent claims 7-9 are also submitted to be in condition for allowance for at least the reasons set forth above with respect to independent claims 4-6.

Applicants have added new dependent claims 13-15 for the Examiner's consideration, which recite that a constant voltage is output from the current detection resistor for each of a plurality of illumination heads with different rated currents. Applicants respectfully submit that claims 13-15 are in condition for allowance for at least the reasons set forth above with respect to independent claims 4-6, from which they depend, and respectfully request an indication of such by the Examiner in the next Office communication.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

SUMMARY AND CONCLUSION

Entry and consideration of the present amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate. Applicants have


made a sincere effort to place the present invention in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should an extension of time be necessary to maintain the pendency of this application, the Commissioner is hereby authorized to charge any additional fee to Deposit Account No. 19-0089.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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